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SOVIET PROJECTION-TYPE TELEVISION RECEIVER

One of the institutes of the Ministry of Communications Equipment Industry USSR has developed the T-4-50, a projection-type television receiver, which can serve an audience of 40 or 50 people. The receiver is assembled in a polished wooden cabinet of dimensions 1,080 x 780 x 560 mm.

The picture is reproduced on a type LPK-10 projection cathode-ray tube having a screen diameter of 100 mm. The path of the luminous flux from this screen is reversed by a reflecting mirror, passes through a correcting lens, falls upon a flat mirror, and is reflected from the latter onto a screen (381 x 508 mm) located in the open top of the television receiver.

The receiver can be supplied from a 110-, 127-, or 220-v ac line and employs 35 tubes. The video and audio receivers are of the superheterodyne type. They have a common stage of rf amplification using a 6Zh4 pentode, a common oscillator (a 6S1P triode), and a common mixer (a 6Zh3P pentode). The first three stages of video i-f amplification also use 6Zh3P pentodes; the detector uses a 6S1P triode, the first stage of video signal amplification, a 6Zh4 pentode, and the second stage, a 6P9 pentode. A 6Kh6S double diode is used for reinsertion of the dc component.

Type 6Zh4 pentodes are used in the audio i-f amplifier and limiter; the remaining tubes in the audio channel are as follows: a 6Kh6S double diode (discriminator); a 6S2S triode and a 6N7S twin triode (first af amplifiers); and two 6P6S beam tetrodes (output stage).

The synch pulses are separated with a 6Zh4 pentode; a 6N8S twin triode is used to separate the frame synch pulses and amplify the line synch pulses. Two 6N7S twin triodes are used in the line- and frame-scanning blocking oscillators; a GU-50 is used in the line-scanning output stage and a 6P3S beam tetrode in the frame-scanning output stage. A 5Ts4S /524/ rectifier is used in the damper.

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Two 5Ts3S /5Z3/ rectifiers are used to supply voltage to the plates and screen grids of all the tubes in the receiver. The high voltage for the second anode of the cathode-ray tube is obtained in the following manner: a 6P3S oscillator develops high-frequency oscillations which are then rectified by four 1Ts1S rectifier tubes.

The television receiver has good line and frame linearity, good picture definition, and high-quality sound reproduction.

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